



OPERATING PROCEDURE

ENDOTRACHEAL INTUBATION

Effective Date:
January 8, 1987

Revised:
October 1, 2000

Approved By:

Approved By Operational Medical Director:

ALS ONLY**I. Intubation criteria:****A. Intubation may be performed under the following provisions:**

1. Orotracheal intubation may be performed on any patient requiring advanced airway support. This includes apneic patients and those without a gag reflex. Intubation may also be performed in patients with suspected cervical-spine injury, using the in-line stabilization method. Tactile intubation may be utilized when direct visualization of the landmarks is not possible (e.g.: vomit in airway, etc.) Nasal-tracheal intubation may be performed, when indicated, on adult patients who are breathing.
2. Any patient, regardless of age or weight, may be intubated in accordance with the parameters as defined above. This includes premature infants through adult patients.

II. Procedures:

- A. In cases where the esophageal obturator airway (EOA) is not already in place, endotracheal intubation shall be initiated immediately.
- B. If the EOA is already in place, endotracheal intubation shall take place with the EOA left in position. Unless the EOA is causing untoward problems with ventilation, it shall be left in place to prevent uncontrolled vomiting.
- C. Prior to attempting to intubate, the airway should be clear of debris and the patient should be ventilated with a bag-valve-mask or gas powered device.

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- D.** In cases of suspected head injury, if an IV has been established, administer **LIDOCAINE**:
- ☐ Adult: 1.0 mg/kg IV prior to the first intubation attempt.
- E.** A maximum of three attempts by any one ALS provider or five attempts per ALS crew shall be made unless otherwise directed by medical control. Placement of the blade to locate landmarks and attempting to pass an ET tube constitutes an attempt. No attempts shall interrupt ventilatory or cardiac assistance for more than 20 seconds. If an attempt fails, the patient should again be ventilated before a subsequent attempt is made.
- F.** Selection of the proper ET tube and correct placement of the ET tube shall be accomplished by following the methodology taught in the DOT ALS training curriculum and AHA standards. This includes but is not limited to:
- ✓ Visualization of the tube going through the vocal cords
 - ✓ Auscultation of the chest and epigastrium for bilateral lung sounds and absence of sound over the epigastrium
 - ✓ Symmetrical chest expansion on ventilation
 - ✓ Condensation in the tube (may not be a good indicator)
 - ✓ Pulse oximetry and/or an end CO₂ detector may be used if available to confirm and monitor proper tube placement
 - ✓ ET Tube detector
 - ✓ Improvement in patient's color and/or overall condition
- G.** The examination to confirm proper tube placement must be performed by a CCT/EMT-Paramedic or other advanced life support provider (RN, MD, etc.), and should preferably be the ALS provider who inserted the tube. In the event that a single ALS provider of a unit intubates a patient, the presence or absence of air exchange will be verified by an EMT-B. The ALS provider will then confirm by auscultation of the chest and epigastrium.
- H.** Once correct tube placement is confirmed, the cuff should be inflated. After cuff inflation the tube should be effectively secured.
- I.** After confirmation of proper ET tube placement, a cervical collar shall be placed and the patient shall have his/her head and neck immobilized in similar fashion to a patient with suspected cervical injuries. Do not place the patient in a supine position if a medical contraindication to doing so exists. The cervical collar may be deferred if it will interfere with External Jugular IV access.
- J.** Re-confirmation of proper ET tube placement is required following head/neck immobilization and after all patient movements to ensure that the ET tube was not displaced.

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- K. The responsibility for assuring and maintaining correct tube placement shall rest with the individual who inserted the device until such time as the patient is delivered to the emergency department or the patient has been transferred to the care of another ALS unit/provider.
- L. In select cases (e.g.: entrapped patients) where endotracheal intubation is indicated and one provider can not get into the proper position to do it alone, the team approach may be utilized. One ALS provider shall insert the blade into proper position (with assistance from his/her partner as necessary) while the second ALS provider places the tube into proper position.
- M. Re-confirmation of proper tube placement shall be performed by both hospital personnel and department ALS providers prior to movement of the patient from the ambulance cot to the hospital gurney.

III. Authorized drugs by endotracheal route:

- A. If directed by the treatment protocol, the following drugs may be administered through the endotracheal tube: “*ALE*” (ET doses are listed.)
 - 1. Atropine (2.0 mg)
 - 2. Lidocaine (3.0 mg/kg)
 - 3. Epinephrine 1:1,000 (2.5 mg)
- B. All drugs should be diluted in NaCl to provide no greater than 10 cc in total volume. A catheter may be passed beyond the tip of the ET tube, or a saline lock adapter may be attached to the side of the tube to assist in delivering the medication. Once the medication is administered down the tube, several ventilations should be given to help disperse the medication.

IV. Reporting endotracheal intubation:

- A. Analysis of Pre-Hospital Endotracheal Intubation Cases Form (FSA-40) shall be completed and forwarded to the Administrative Offices whenever an intubation is attempted. The attending emergency department physician must sign the form. Placement of the blade to locate landmarks and attempting to pass an ET tube constitutes an attempt.
- B. If two or more individuals attempt intubation on the same patient, then each shall complete an Analysis of Pre-Hospital Endotracheal Intubation Cases (FSA-40).
- C. If a team approach is used to accomplish intubation, the person who placed the tube in the

trachea shall submit the FSA-40.

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- D. If suppression unit or non-transport EMS unit personnel perform the intubation, they shall complete an FSA-40. The transporting unit officer shall submit a supplemental FSA-40, completed by the attending physician, and submit it as a separate form to Administration.

V. Maintaining certification:

- A. To remain certified to perform endotracheal intubation, the ALS provider must successfully demonstrate ET skills during the Department's Continuing Medical Education session.

VI. Misplaced intubation:

- A. Definition: A misplaced intubation occurs when an endotracheal tube is incorrectly placed in a patient and goes unrecognized and/or uncorrected and is noticed by a receiving facility.

B. Reporting:

1. The officer of the unit or the clinical staff of the receiving facility shall contact The Administrative Offices as soon as possible after the misplaced intubation is discovered.
2. Upon receipt of the report, the Administrative Offices will discuss the findings with the Operational Medical Director and determine what corrective action, if any, may be warranted. Until a final decision is reached, the individual involved shall not perform field intubations. Corrective actions may include, but not limited to:
 - ✓ Case discussion with the Operational Medical Director
 - ✓ Remedial training
 - ✓ De-certification or other action as deemed necessary by the administrative staff and OMD